Strategic Information Technology Plan

FY 2000 - FY 2004

International Trade Administration

February 7, 2000

Table of Contents

Appendices

Executive Summary

This document describes the International Trade Administrations's (ITA) strategy for using information technology (IT) to streamline business processes and improve delivery of ITA products and services to the American public. The plan addresses IT resources and related management activities for a five year period (FY 2000 - 2004). It was developed by ITA's Office of Information Resources Management (OIRM) in cooperation with the leading ITA information technology managers and key planning, budget, and program staff. This year's plan updates the plan submitted in February 1999. ITA has recently began a new round of program planning as part of the Department's activity to update the Commerce Strategic Plan. If this process results in major changes to ITA's IT investment plans, those changes will be reflected in an update to this document, or incorporated in ITA's Operational Information Technology Plan, which will be submitted in June 2000.

Introduction

This document describes ITA's strategy for using information technology (IT) to streamline business processes and improve the delivery of ITA products and services to the American public. It focuses on the most significant issues confronting the creation of our vision of an electronic global trade information environment.

Purpose of the Plan

The plan is designed to serve as a road map to guide ITA's efforts to strategically apply information technology to improve organizational performance. It explains our objectives in the form of an IT vision, and then lays out our strategies and plans for achieving it. Potential obstacles that confront us are described, along with plans to manage them. The plan also includes a report on progress to date. This document provides the context for more detailed operational IT planning, and complements ITA's other annual planning activities and documents such as the Operational Information Technology Plan, the Government Performance and Results Act (GPRA) Annual Performance Plan, the Information Collection Budget (ICB), and the ITA budget.

Scope of the Plan

This plan addresses IT resources and related management activities for a five year period, from FY 2000 through FY 2004. IT resources are the tangible and intangible assets involved in developing and operating technology-based infrastructure and application systems. This plan only focuses on information management issues with respect to their IT implications. For a summary of ITA information management strategies, see Appendix A.

Structure of the Plan

The format of the plan is generally consistent with that suggested by the Department and is divided accordingly into the following sections:

Introduction

Describes the purpose served by the plan, the structure of the plan, and the process used to develop it.

ITA Mission, Organization, and Business Processes

Presents ITA mission goals, organizational structure, and fundamental business processes.

Overview of IT in ITA

Articulates the ITA vision for information technology's contribution to mission performance, lists our major IT investments, and identifies how they support key ITA business processes as well as Secretarial initiatives. It also explains how we are organized to manage IT.

Goals

Outlines the goals that we use to guide the efforts to realize our IT vision.

Planning Assumptions

Identifies key assumptions regarding ITA mission activities and the internal and external IT environment.

Issues, Strategies and Action Plans

Describes the most significant issues involved in achieving our goals, explains the strategies for addressing them, and identifies actions we will take during the next twelve months.

Summary of Key Activities

Explains ITA's progress and plans related to Departmental IT priorities and initiatives, and internal IT management improvement efforts.

IT Investment Portfolio Synopsis

Provides a snapshot of each major IT investment in our portfolio, summarizing its status along with FY 2000-2004 financial and performance measure data.

Planning Process

This plan was developed by ITA's Office of Information Resources Management (OIRM) in cooperation with the leading ITA information technology managers and key planning, budget, and program staff. Coordination, review, and input were provided by ITA's Information Technology Management Council (ITMC), which serves in an advisory role to the Director of OIRM in regard to organization-wide or cross-cutting IT management issues and activities. The process used to develop this plan is based on traditional strategic planning procedures and consists of the following steps:

1. Identify the IT vision and supporting goals - describe the ideal state of IT and identify the goals that accompany it.

2. Assess the current situation - analyze the strengths and weaknesses of ITA's internal environment, and evaluate threats and opportunities arising from external factors.

3. Identify strategic issues - describe the fundamental questions or challenges that pose obstacles to achieving the IT vision and goals.

4. Formulate strategies - develop the general policies, approaches, or programs to be used to achieve the goals and address the strategic issues.

5. Develop action plans - specify the detailed actions to be taken to implement the strategies.

ITA Mission, Organization and Business Processes

Mission

ITA's mission[1] is to help U.S. companies sell products and services abroad in support of U.S. jobs at home. ITA has four major goals:

Enforce U.S. trade laws and agreements to promote free and fair trade - by effectively administering U.S. trade laws and by taking prompt, aggressive action against unfair trade practices, and by ensuring that U.S. companies get the full benefit of agreements that other countries have signed with the United States.

Increase the number of small business exporters - by delivering a comprehensive set of trade promotion products and services designed to stimulate the engagement and growth of Small and Medium Sized Enterprises (SMEs) in exporting.

Implement the President's National Export Strategy - by leading the interagency Trade Policy Coordination Committee (TPCC) in implementing the President's mandate to "streamline, simplify and better focus U.S. trade and export programs."

Strengthen and institutionalize our trade promotion and advocacy efforts - by enhancing our field resources, electronic links, and product lines supporting promotion activities and improving the quality of the services provided by the Advocacy Center in helping U.S. firms win bids for projects and commercial transactions in foreign markets.

[1] An ITA task force is formulating a new mission statement as part of the FY 2000 strategic planning process. The mission descriptions in this document are based on the current ITA mission statement.

Organization

ITA is headed by the Under Secretary for International Trade, who oversees a 2,400-member workforce and the operations of four principal units:

The U.S. and Foreign Commercial Service (US&FCS), which delivers export assistance through products and services to U.S. firms in 105 domestic locations and 135 overseas posts worldwide;

Trade Development (TD), which provides sector-based information and analysis to U.S. exporters and policy makers and operates the Trade Information Center (TIC) which provides export assistance via the 1-800-USA-TRADE hotline;

Market Access and Compliance (MAC), which works to expand access to overseas markets for U.S. goods and services, informs American business of its rights and benefits under existing trade agreements, and monitors foreign compliance with U.S. bilateral and multilateral agreements; and

Import Administration (IA), which safeguards the American economy from unfairly priced imports, through administration of U.S. trade laws.

Business Processes

ITA business processes fall under three broad categories: Trade Promotion, Trade Law Enforcement, and Trade Policy. Each of these categories and the processes comprising them are summarized briefly in the table on the following page.

ITA Business Processes

Business Area/Process	Purpose
Trade Promotion	***Assist U.S. firms in selling their products and services in international markets***
Business Counseling	Provide specialized advice to companies seeking to enter new markets or expand their exporting activities
Trade Events	Help U.S. exporters showcase their products and services to potential overseas buyers
Advocacy	Intervene on behalf of U.S. firms encountering difficulty winning major projects abroad
Trade Law Enforcement	***Promote free and fair trade practices***
Agreements Compliance	Ensure that foreign countries abide by agreements executed with the U.S.
Antidumping/Countervailing Duties	Remedy unfair trading practices injurious to U.S. industries
Trade Policy	***Support U.S. Government efforts to maintain a framework for international trade that supports U.S. economic and security interests***
Policy/Strategy Formulation and Implementation	Conduct analysis and research necessary to support new and on-going policy initiatives, and support the negotiation and implementation of international trade agreements

Overview of IT in ITA

ITA Vision for IT

The Administration's National Performance Review (NPR) articulated a vision for IT as the great enabler of reinvention, and as a means for creating a government that works better and costs less. IT introduces the possibility of "electronic government," where technology streamlines government business processes and improves the delivery of government services to the American public. ITA has embraced this vision and interprets it as follows:

> *ITA will lead federal agency efforts to increase U.S. exports and enforce U.S. trade laws by using modern technology to build an electronic global trade information environment that continually increases our ability to collaborate with our partners and stakeholders, and deliver products and services to our clients.*

Major IT Investments

ITA spends approximately $22 million annually on information technology assets and services. The majority of our expenditures (81%) are for general-purpose IT infrastructure: networks, computers, software, and systems that enable ITA employees to perform their routine daily activities. Most of the remainder, averaging $4 million annually (18%), funds the development, modernization, and operation of our major application systems. These systems are:

Financial Management System - the ITA accounting system and other related systems which support ITA financial management activities.

Client Management System (CMS) - which assists ITA trade specialists in managing their client-related activities.

Trade Policy Information System (TPIS) - which provides the U.S. Government trade community with time-series trade data and the analytical capabilities for conducting trade policy analysis and research.

Message Processing System (MPS) - which distributes State Department cables for the Department of Commerce.

ITA spends the remaining portion of its IT funds (just under $300K annually, or slightly more than 1% of overall IT expenditures) on ITA-wide IT architecture and planning activities.

A summary of our projected average spending for these items for the next five years is shown on the next page[2].

[2]The financial data on which this is based is included as Appendix B.

Major IT Investments (FY 2000-2004)

IT Investment Category	5-year Average	
	($K)	Percent
Infrastructure	**18,154**	
Subtotal	**18,154**	81%
Systems		
Financial Management System	2,559	
Client Management System (CMS)	173	
Trade Policy Information System (TPIS)	618	
Message Processing System (MPS)	768	
Subtotal	**4,118**	18%
IT Architecture and Planning	**292**	
Subtotal	**292**	1%
Grand Total	**22,564**	100%

IT Support for ITA Business Processes

The table below links ITA's major IT investments to the business processes that they support. The two symbols used in the ITA investment columns indicate the relative contribution of the IT component to the business process. A black circle (**!**) indicates a strong contribution to the business process, either in terms of importance or frequency of use. An open circle (**"**) indicates support for the business process, but in a secondary way. Infrastructure, which is managed as an integrated program called Total Network Compatibility (TNC), is shown as supporting all business processes, because it (1) provides the day-to-day tools for document preparation, information sharing and computation that support all program activities, and (2) serves as the technical platform for hosting or accessing mission and administrative systems that support specific business processes. The other IT investment supporting all business processes is the Message Processing System (MPS). Virtually every ITA office is a recipient of State Department cables, and depends on them as a routine source of information. Following the table, the contribution of our IT infrastructure and systems to each business area is described in more detail.

IT Support for ITA Business Processes

Business Activity/Process	IT Investment				
	Infrastructure (TNC)	Mission Systems		Administrative Systems	
		CMS	TPIS	Financial Mgmt System	MPS
Trade Promotion					
Business Counseling	Ž	Ž	F		F
Trade Events	Ž	Ž		Ž	F
Advocacy	Ž		F		F
Trade Law Enforcement					
Agreements Compliance	Ž		F		F
Antidumping/Countervailing Duties	Ž		F		F
Trade Policy					
Policy/Strategy Formulation and Implementation	Ž		Ž		F
Management and Administration					
Financial Management	Ž			Ž	F

Key: **Ž** Strong Support, **F** Secondary Support

As the table above shows, each of our major IT investments supports multiple business processes, and in several instances supports business processes in more than one of our three major business activity groupings. This is reflective of the ITA organization, which is a matrix arrangement where regional specialists (country desk officers), industry experts, and trade specialists at our overseas posts and domestic U.S. offices often work as a team on specific trade issues. In the paragraphs below, the role that IT plays in supporting each of our major business activities is illustrated.

Trade Promotion

An essential part of our trade promotion activity is providing information to potential exporters and web publishing is our primary dissemination vehicle. ITA has a broad array of websites that provide a wealth of information to our clients via the Internet. These websites represent all of our domestic and foreign field offices as well as each major ITA program and organization. All of the sites are integrated into a unified web presence via the ITA home page (www.ita.doc.gov). Our electronic information dissemination activity complements the one-on-

one business counseling performed by trade specialists in our field offices and by the staff of the Trade Information Center (TIC), our national exporter hotline service.

The Client Management System (CMS) is the primary business process tool used by our field trade specialists to manage all of their activity with clients. It assists each trade specialist in tracking the products and services they provide to exporters, including the involvement of their clients in trade events sponsored by ITA. Since these events are fee-based, ITA financial systems provide the support necessary to ensure appropriate collection and processing of trade event funds.

ITA's IT infrastructure also provides a platform for a wide variety of small systems and databases that support the activities of ITA offices and organizations. The Advocacy Center project database is one such example. It provides a central repository of information regarding the status of individual cases where ITA is assisting U.S. companies to win major contracts overseas.

Trade Law Enforcement

Our trade law enforcement activities depend almost solely on our infrastructure for IT support. It provides both information dissemination and computational capabilities that are vital to this business process. ITA is using the web to make information regarding international agreements available to U.S. exporters. This information assists U.S. companies that may be having difficulty in international markets to become aware of the rights they have as part of trade agreements the U.S. has signed with other countries. ITA also uses the web to make information available to the public on the status of its investigations and reviews of potential violations of U.S. import (antidumping and countervailing duty) laws by foreign companies. In performing these investigations and determinations, ITA depends heavily on infrastructure capabilities to (1) perform statistical analysis of foreign firm sales transactions, (2) develop, maintain, and archive all the legal documents associated with each case, and (3) monitor the status of all the work products and administrative deadlines involved in case processing.

Trade Policy

The Trade Policy Information System (TPIS) is an important source of information and analytical capability used by ITA and other federal agencies to assess the impact of developments in the international marketplace on U.S. economic security. It contains detailed historical U.S. and foreign merchandise trade statistics in a time-series format. TPIS is used by analysts and policy makers to assess the potential effect of proposed trade policies, formulate strategies for addressing international trade practices injurious to U.S. interests, and study the long-term effectiveness of U.S. trade agreements and policy. Our IT infrastructure also provides the day-to-day tools to support staff involved in trade policy work. It provides statistical capability for processing data from sources such as TPIS, furnishes an environment to

house the data and documents associated with various trade policies and agreements, and supports information sharing activities critical to the policy formulation process.

Management and Administration

ITA operates only one major administrative system, the Message Processing System (MPS). Beyond that, and with the exception of the Financial Management System, which is outsourced to the Department of Interior (DOI), ITA depends on Departmental systems to support activities such as human resources management, payroll processing, and property inventory[3]. However, our network infrastructure serves as the means for accessing these systems, and is therefore considered critical to the effective operation of our administrative processes. It also hosts some of our smaller administrative systems (e.g. the Controlled Correspondence System) and provides an electronic forms capability for producing standard federal, Commerce and ITA forms.

IT Management Responsibilities

Responsibility and resources for IT are distributed throughout ITA in line with organizational and business process responsibilities. The Office of Information Resources Management (OIRM) carries out the responsibilities of the Chief Information Officer (CIO) for ITA, providing leadership and oversight for IT management throughout the organization. In this role, OIRM directs ITA-wide strategic, operational and architectural IT planning activities and the IT capital planning and investment management process. OIRM also oversees the ITA-wide infrastructure program (TNC), operates the Message Processing System (MPS), manages the shared IT infrastructure activities of each of the major ITA business units (with the exception of US&FCS), and administers the network that supports the Office of the Under Secretary and Administration.

Each major line organization is responsible for planning, funding, and operating IT resources required to support the activities of its units. Cross-cutting IT resources are either managed on a cooperative basis between line organizations, delegated to a lead organization, or handled by OIRM. The Information Technology Management Council (ITMC), consisting of representatives of each line organization and chaired by the Director of OIRM, is the primary vehicle for addressing enterprise-wide IT management issues and coordinating ITA-wide IT decision-making.

[3]ITA will be converting to a DOI-based property system during FY 2000.

Goals

ITA has established several goals to guide us in realizing our IT vision. These goals, shown in the table below, correspond to two important aspects of IT: how we manage and what we manage. We have established a goal for management that recognizes our need to adopt new strategies and techniques, in line with federal policy mandates and "best practices" literature, and we have set separate goals for our infrastructure and system resources, in recognition of their unique importance and distinct characteristics.

IT Goals

IT Management	‘ Increase our ability to derive business value from IT investments
IT Infrastructure	‘ Maintain an IT infrastructure that is interoperable, technologically current, and secure ‘ Provide IT infrastructure support services that satisfy customers
IT Systems	‘ Deploy systems that improve ITA mission performance

Our IT management goal states our intention to improve in the competencies required to promote the maximum return from our IT investments. With the global scope of our IT environment, the rapid change in technology, shifting program requirements, and increasing customer expectations, we must continually hone our skills to reap the maximum benefit from our infrastructure and system investments. The goal of IT management excellence also forms the foundation for achieving the other three goals that address our two core technology investments: IT infrastructure and systems.

The two IT infrastructure goals highlight the premium we place on this resource. Infrastructure is of critical importance to ITA because it provides:

- a global electronic mail system and information sharing capabilities that are key to organization-wide communication;
- the technology framework and platform for all of our major systems;
- the basic tools to perform fundamental ITA business processes; and
- a cost-effective information dissemination capability that supports our external and customer-based product and service delivery processes.

Our IT systems goal indicates our commitment to deploy systems that have significant impact on ITA mission performance. Strategic use of IT will enable ITA to develop innovative products and services, as well as improve existing ones; IT should also allow us to become more efficient in creating and delivering products and services.

Planning Assumptions

Mission Assumptions

- No fundamental changes to ITA's core business processes within the next 12 months.
- Resources will remain relatively stable.
- Customers of ITA's information dissemination activities will expect our web-based services to offer features comparable to commercial web sites.

IT Assumptions

- Pressures driving change will continue:
  - Administration and Department initiatives promoting "electronic government"
  - Legislation and policy mandates to adopt IT management "best practices"
  - Rapid evolution of products and services in the IT marketplace, especially oriented toward the Internet and electronic commerce
- IT infrastructure will remain ITA's primary investment (versus application systems).

Issues, Strategies, and Action Plans

The goals that ITA has established to support the realization of our IT vision are ambitious. The challenges involved in achieving these goals are characterized in the paragraphs that follow as "issues", i.e., fundamental questions that pose obstacles to achieving our stated objectives. These issues were identified based on an analysis of ITA's internal IT strengths and weaknesses and an assessment of external threats and opportunities. The issues related to each of our goals are presented, and strategies for addressing the issues are discussed.

IT Management

The last several years have been a time of significant change for federal IT management policies. Administration initiatives such as the National Performance Review (NPR) coupled with legislation such as the Government Performance and Results Act (GPRA) and acquisition streamlining are driving federal agencies to overhaul the way they plan, acquire, and manage IT resources. The scope and impact of management reforms is unprecedented in recent times. Responding to changes of this magnitude is challenging, particularly at a time when the federal IT workforce is facing a labor shortage.

ITA's strategies for dealing with these challenges involve leveraging the experience of others, selectively implementing and improving key processes, and appointing a Chief Information Officer (CIO).

IT Management Issues and Strategies

Issues	Strategies
Responding to IT Management Improvement Mandates	! Learn from Others ! Implement Selected Best Practices Tailored to ITA ! Strengthen Planning Processes ! Appoint a Chief Information Officer (CIO)
Addressing IT Workforce Recruitment and Retention	! Rely on and Participate in Government-wide and Departmental Solutions

Responding to IT Management Improvement Mandates

Successful management of complex and rapidly-changing information technology has long been a challenge for the federal government. Many factors seem to conspire to make the task difficult. In an effort to correct the problem, central management agencies, oversight bodies, and legislative committees have commissioned research, conducted audits, and published findings, contributing to a growing body of knowledge about how to do IT "right". Recent legislation has also incorporated key management concepts and approaches into federal IT policy. Implementing these policy mandates is challenging for several reasons:

! New processes are resource-intensive

Methodologies being promoted for IT capital planning and investment management, architecture planning, and security management involve more sophisticated processes and documentation. Although using these new approaches should improve IT management, implementing and operating these processes will come at a cost. Resources are already scarce, and shifting resources to management processes from operational requirements will be challenging.

! Good models for organizations comparable to ITA are lacking

Much of the best practice literature and methodological guidance is directed at large-scale system development efforts. The ITA IT portfolio is predominantly infrastructure with a variety of small-scale systems. Documentation on infrastructure-oriented policies and practices for global organizations like ITA is difficult to find.

! Success involves more than the IT community

Integrating IT planning with program planning, developing architectures, and evaluating IT investments requires significant involvement of program managers. Program managers who

are not attuned to performance measurement and business process reengineering/improvement will find engaging in these activities challenging, and will need to be convinced of their value.

Strategies

Learn from Others
ITA can benefit greatly from leveraging the IT management knowledge and expertise already developed by other organizations. Potential sources of this expertise are other Commerce operating units, other federal organizations and comparable non-profit and private sector entities.
Implement Selected Best Practices Tailored to ITA
Implementation of best practices can yield substantial payoff for ITA. However, much of the best practice literature is broad and conceptual and the majority of it focused on major systems development. ITA will need to tailor best practice methodologies to fit our primarily infrastructure environment and organization capabilities. What may be an excellent management approach for another organization may not be feasible for us due to resource limitations, organizational differences, or other considerations. The same holds true for the IT management methodologies being promoted by OMB and others. We see merit in many of the new approaches (e.g. capital planning, IT architectures, performance measurement), but few can just be implemented "off-the-shelf". Careful planning is required to match the resources required to implement and operate each new methodology with the potential gains to be realized through its use.
Strengthen Planning Processes
ITA will strengthen IT planning by adopting more formalized processes and enhanced documentation.
Appoint a Chief Information Officer (CIO)
ITA will establish a formal CIO position and an appropriate CIO organization, based on guidance issued by the Department.

Action Plan

Strategy	Action	Schedule (2000)
Learn from Others	Conduct two or more site visits of organizations comparable to ITA	March - September
	Participate on DOC Affinity Groups	On-going
Implement Selected Best Practices Tailored to ITA	**IT Capital Planning**	
	Conduct selection process for FY 2002 IT budget initiatives	May - June
	Conduct post-implementation review(s) for selected system(s)	To Be Determined
	IT Architectures	
	Complete final architecture document	May
	IT Performance Measurement	
	Review and improve infrastructure measures	March - May
Strengthen Planning Processes	**Integrated IT/Program Planning**	
	Participate in mission planning activities (Strategic Plan update, GPRA planning)	February - August
	IT Security Planning	
	Update Security Plans to Conform to NIST 800-18 Guidance	February - May
	Certify and Accredit Systems	October - December
Appoint a CIO	Recruit and staff a CIO position and supporting staff organization	March - September

Addressing IT Workforce Recruitment and Retention

This is widely recognized as a significant issue across the federal government. Although our IT workforce is relatively small, IT personnel are critical to the effective management of ITA's IT resources.

Strategies

Rely on and Participate in Government-wide and Departmental Solutions
ITA is looking to organizations such as OPM, the federal CIO Council, and the Department, who are better positioned to research and address this issue. We will actively participate in innovative programs or approaches where they are applicable to the ITA IT workforce.

Action Plan

Strategy	Action	Schedule (2000)
Rely on and Participate in Government-wide and Departmental Solutions	Participate in OPM pilot	To Be Determined

IT Infrastructure

Although modernization efforts over the past two years have brought most of ITA's infrastructure up to industry-standard, several obstacles to achieving a global world-class infrastructure remain. The first issue involves our overseas infrastructure, where we need to obtain bandwidth and Internet access comparable to our domestic infrastructure. The other two issues are enterprise-wide: improving our network security posture in light of increasing use of the Internet, and determining the appropriate approach to ensuring that our infrastructure stays "modern", which is key to ensuring enterprise-wide interoperability.

IT Infrastructure Issues and Strategies

Issues	Strategies
Meeting Bandwidth and Internet Access Requirements	! Expand Headquarters and Domestic Infrastructure Capacity ! Seek Innovative Solutions Overseas
Selecting Security Enhancements	! Integrate into Planning Activities
Sustaining an Interoperable Infrastructure	! Manage Infrastructure as an Integrated Program ! Improve Infrastructure Planning Processes ! Focus on Continual, Incremental Improvement

Meeting Bandwidth and Internet Access Requirements

The explosive growth of the Internet and the escalating demand for bandwidth-intensive applications (video-conferencing, webcasting, web radio, etc.) are straining the capacity of the ITA network infrastructure. Our domestic infrastructure, although relatively robust, will need to be expanded in order to keep pace with user demand. Upgrading will primarily be a cost issue. Overseas, however, addressing these needs will be particularly challenging. Although the on-site IT infrastructure at overseas posts has been upgraded to industry standard hardware and software platforms, requirements for increased bandwidth and Internet access have yet to be fully satisfied. ITA is dependent upon the Department of State (DOS) for overseas telecommunications services, and the quality and expense of in-country service that DOS can acquire, along with IT security issues, have hampered our ability to address these requirements. Bandwidth speed and quality is low at a number of posts, and Internet access is limited to a shared stand-alone PC rather than being available at the desktop. Unless the overseas infrastructure can be upgraded to a level comparable to ITA's headquarters and domestic field infrastructure, enterprise-wide communications and information sharing will suffer, along with productivity at overseas sites. Additional bandwidth is needed to support efficient data transfer associated with enterprise systems, US&FCS databases, and remote administration of overseas LANs. Desktop Internet access is needed to support critical business processes requiring interaction with internal systems and external clients.

Strategies

Expand Headquarters and Domestic Infrastructure Capacity
Network infrastructure bandwidth capacity must be engineered and managed to keep pace with growing user demands.
Seek Innovative Overseas Solutions
At present, bandwidth upgrades are unavailable at some locations due to lack of in-country infrastructure; at others, service is available, but is prohibitively expensive. Other solutions will have to be explored.

Action Plan

Strategy	Action	Schedule (2000)
Seek Innovative Solutions	Work with State Department and commercial providers to identify and test alternatives	February - September
Expand Headquarters and Domestic Infrastructure Capacity	Review network capacity and performance, and incorporate enhancements into FY 2000 capital planning process for infrastructure	February - May

Selecting Security Enhancements

Increasing use of, and dependence on, the Internet as a routine means for doing business have increased security vulnerabilities. Options for improving security must be carefully evaluated, due to the global nature of the ITA infrastructure and the potential cost and complexity of implementing and administering additional system controls.

Strategies

Integrate into Planning Activities
Assessment of requirements, evaluation of alternatives, and implementation of security enhancements must be integrated into the current planning process. Selection of appropriate controls must be considered in conjunction with business requirements, ease of use, costs of administration, and evolving technology. Security decisions cannot be made independently from other infrastructure and programmatic decisions.

Action Plan

Strategy	Action	Schedule (2000)
Integrate into Planning Activities	Conduct risk assessments to establish baseline for security requirements	April
	Include security enhancements in FY 2000 capital planning process for infrastructure	May

Sustaining an Interoperable Infrastructure

Maintaining adequate compatibility between the many technical components in ITA's widely distributed and dynamic enterprise is challenging. However, if the infrastructure in any one part of ITA deviates too far from the rest, problems ensue. With major segments of the infrastructure being owned and operated by ITA constituent organizations, supporting differing mission requirements and having varying funding patterns, there are significant organizational pressures for change that must be managed. Rapid product cycles for popular desktop and network hardware and software, and the user demand created by them, further complicate the problem.

Strategies

Manage Infrastructure as an Integrated Program
IT infrastructure is a widely dispersed resource within ITA. To provide organization-wide consistency in managing this resource, ITA established an infrastructure program called Total Network Compatibility (TNC) in 1994. This provides ITA with the flexibility necessary to maintain organization-wide infrastructure interoperability while allowing for the diverse business requirements and operating environments (domestic U.S. and over 78 countries around the globe) of ITA units. This approach was instituted as a replacement for a more centralized approach that was not compatible with the general management structure of ITA and failed to keep pace with customer requirements and changing technology.
Improve Infrastructure Planning Processes
In a highly dynamic and integrated environment, it is imperative to structure an orderly change management process. The process should anticipate change and provide a means to maintain order during transitional periods. Doing so will protect against disruptions associated with unanticipated events.

Strategies (continued)

Maintain Technological Currency
One of the major challenges in achieving and preserving infrastructure quality is maintaining a sufficient degree of integration and compatibility among the technical components and organizational domains that constitute the ITA enterprise infrastructure. Past efforts to achieve organization-wide interoperability have typically depended on massive modernization efforts that "standardized" significant portions of the environment. These efforts often took too long to complete. By the end of the project, the "modernized" technology being installed was obsolete. Approaches that build in continual renewal and decrease the cycle time for upgrades are critical to keeping all segments of the environment "in sync". Keeping the infrastructure technologically current also enables ITA to take advantage of the increasing degree of interoperability that is engineered into the latest generation of products.

Action Plan

Strategy	Action	Schedule (2000)
Manage Infrastructure as an Integrated Program	Monitor adoption of, experience with Seat Management strategies by other federal agencies and/or Commerce operating units	On-going
	Develop governance process that is transparent, documented, and based on IT architecture	June - August
Improve Infrastructure Planning Processes	Conduct joint (ITA LAN/US&FCS) infrastructure planning sessions	February - April
Maintain Technological Currency	Develop and implement infrastructure renewal strategies that decrease cycle time for upgrades	March - April

IT Systems

ITA believes that significant strides can be taken in applying IT to improve mission performance. There is more opportunity now than ever before in terms of the potential capabilities offered by technology. However, our ability to tap this potential requires us to see how these new capabilities can be applied to specific business processes. If we can make that connection, the systems that we develop and implement will produce or enable improvements in ITA's mission effectiveness and/or operational efficiency.

IT System Issues and Strategies

Issues	Strategies
Identifying IT Requirements and Opportunities	! Capitalize on Program Planning and Architecture Development Activities ! Promote Business Process Approaches ! Foster Collaborative Efforts
Creating a "Digital Department"	! Look for Departmental Leadership ! Migrate to Web-Based Solutions for ITA Systems

Identifying IT Requirements and Opportunities

Best practice research indicates that effective IT systems are based on reengineered business processes. However, program managers are unfamiliar with business process reengineering, or resistant to funding process improvement or requirements analysis activities. Many assume that off-the-shelf hardware and software will solve any business problem. Without an investment in business process analysis, requirements for IT are often poorly expressed, and IT solutions are implemented based on inaccurate assumptions. The problem has been so pronounced that legislation now mandates that federal agencies implement best practices to improve the "connection" between their systems efforts and program delivery. The first step in the IT capital planning process is establishing the business requirement for IT, or the opportunity for IT to create new ways of doing business. This step of conceptualizing the application of IT to solve a business problem is best addressed by IT and program staff working as a team to study the business process and evaluate potential solutions.

Strategies

Capitalize on Program Planning and Architecture Development Activities
The involvement of IT managers in ITA strategic planning activities offers the opportunity to engage with program managers regarding the use of IT to support mission functions. Completion of an IT architecture also requires input from program managers regarding business processes and the linkage to IT.
Promote Business Process Approaches
Educate program managers about the importance of process improvement in conjunction with automation efforts.

Strategies (continued)

Foster Collaborative Efforts
Technology changes so rapidly that it is difficult to keep up with the new opportunities it offers and to determine the best ways to take advantage of them. Taking maximum advantage of technology to address business needs requires the full engagement of both IT and program personnel. Working together, IT staff (both contractor and government) and program staff combine technical and business process knowledge to better determine how to take advantage of emerging IT capabilities to solve mission requirements.

Action Plan

Strategy	Action	Schedule (2000)
Capitalize on Program Planning and Architecture Development Activities	Facilitate business process definition as an outcome of the ITA strategic planning activity	February - August
	Document business process baseline as part of IT architecture plan preparation	February - May
Promote Business Process Approaches	Discuss business process improvement with business process owners as part of Operational IT Plan preparation	April - May
	Emphasize business process improvement as a critical element for FY 2002 IT budget initiatives	May - June
Foster Collaborative Efforts	Involve IT staff in mission-oriented innovation and pilot program activities	On-going
	Sponsor sessions to discuss IT implications of cross-organizational business processes	June - October

Creating a "Digital Department"

ITA fully supports the trend toward electronic government as expressed by Administration initiatives such as Access America, legislative mandates like the Government Paperwork Elimination Act, and now the Secretary's Digital Department initiative. Indeed, ITA has been taking steps over the last several years to automate interaction with clients, both for internal and external business processes. It should be recognized however, that the mandate for electronic government has not been specifically funded and that the resources required to reengineer business processes to take advantage of technology can be significant. For this reason, and in light of the fact that the Department has responsibility for most of the administrative systems that are used across Commerce, ITA will looking primarily to the Department for leadership on internal business process automation (except for financial management, where ITA has its own system). We will continue migrate to toward web-based mission-related systems as resources permit.

Strategies

Look for Departmental Leadership
Common administrative processes and systems, and cross-cutting issues and technologies (e.g. digital signatures, Intranet) are best addressed at the Commerce level.
Migrate to Web-Based Solutions for ITA Systems
As resources permit, incorporate plans to build/buy web-based interfaces for public-facing systems, and internal systems where web interfaces would be superior to proprietary client-server architectures.

Action Plan

Strategy	Action	Schedule (2000)
Look for Departmental Leadership	Assess DOC guidance on digital signatures/PKI, Intranet	(when published)
Migrate to Web-Based Solutions for ITA Systems.	Trade Policy Information System - implement web client	January - June
	Client Management System - consider web interface in next generation of the system	To Be Determined

Summary of Key Activities

This section briefly describes ITA's progress and plans related to Departmental IT priorities and initiatives, and internal IT management improvement efforts.

Departmental IT Priorities and Initiatives

Clean Financial Statements

In September 1999, ITA substantially completed the replacement of its accounting system. This was a major component of an overall effort to modernize and integrate ITA's financial and administrative management systems and streamline related business processes. Conversion to the new accounting system also positions ITA to address our most significant management challenge: complying with the Chief Financial Officer (CFO) Act of 1990. As a result of the conversion, and in conjunction with a number of initiatives undertaken by ITA's CFO, ITA expects to receive an unqualified (clean) audit opinion for the FY 1999 Balance Sheet and the FY 2000 financial statements.

Digital Department Initiative

ITA supports the concept of using electronic (paperless) methods as a means to streamline internal and external business processes. We have been moving in that direction for some time now and welcome the Department's leadership in addressing Commerce-wide administrative systems and processes. ITA has recently migrated to a new accounting system that has web-based interfaces for various reporting functions. This new system gives users more timely access to financial data and eliminates a significant amount of paper. Plans are underway permit transactions to be entered at the point of origin and routed electronically for approvals. Since we use Departmental systems for our human resources functions, we are looking to the Department for new developments in these areas.

The web is becoming our primary means for interacting with the public, and in that area we are looking at the possibility of adding capabilities to our web sites to allow customization of information products/services for individual users. TPIS, our only major system that has an external interface (it supports users in other Government agencies, not the general public) is being enhanced to include a web interface. We are also considering a web interface for CMS, where we are looking at the potential for a browser being the client interface in a future release of the system. The MPS, our classified system that receives and distributes State Department cables, has no requirement for a web interface.

We are interested in developing intranet/extranet-based applications, workflow, and electronic filing systems, and see digital signatures and public key encryption as requirements. We are awaiting further developments and guidance from the Department on this issue.

IT Affinity Groups

ITA is currently represented in six of the IT Affinity Groups chartered by the Department's CIO to address Commerce-wide IT issues. ITA has two representatives on the Architecture and Electronic Systems and Forms groups, and one member on each of the Webmasters, Office Software, Electronic Messaging, and IT Handbook groups. As resources permit, we anticipate becoming involved in additional groups.

ITA IT Management Improvement Activities

IT Architecture

Our first year implementation of IT architecture as a "best practice" culminated in the submission of a draft architecture document to the Department's IT Architecture Affinity Group in October. OIRM has also provided two staff members as participants in this group, which developed architecture guidance for the Department and is reviewing the documents submitted by the operating units. We expect to complete ITA's first "final" architecture document on schedule in May of this year. Development of the architecture will be integrated with FY 2000 IT planning activities whenever possible. The Operational IT Plan will document the migration plan where any significant architectural changes are required.

IT Capital Planning

Last Spring, the IT Management Council (ITMC) reviewed and ranked ITA's complete IT portfolio (including FY 2001 budget increases) and submitted justification packages (Raines Rules) as requested by the Department's CIO. The ITMC also conducted its first implementation phase review for a major system, examining mid-course progress in the conversion of the ITA Financial Management System. The IT Capital Planning Self-Assessment conducted last February did not reveal any major deficiencies with our process. However, potential adjustments being considered for this year's process are: (1) developing a separate scoring methodology for infrastructure and application systems; and (2) considering applying the process to major infrastructure upgrades, regardless of whether they are part of a budget proposal.

IT Security

During the last quarter of 1999, we submitted security plans and risk assessments for two of our classified systems to the Department for accreditation, and updated the security plan for Client Management System. Plans are underway to update the security plans for the five remaining systems so as to be compliant with the NIST SP 800-18 guidance by May, 2000. Our current target is December, 2000 for completing all the activities leading to certification/accreditation for our unclassified systems.

ITA does not have any systems that meet the criteria for inclusion in the Department's Critical Infrastructure Protection (CIP) Program. However, we are considering adapting the CIP vulnerability assessment methodology to use in conducting risk assessments for ITA systems.

IT Workforce Recruitment, Training and Retention

ITA has no significant initiatives underway in this area and is looking to the Department and the experience of other Federal agencies for guidance. We plan to participate in Departmental initiatives as appropriate. The total number of Government IT professionals in ITA is relatively small (approximately 45 individuals, the majority of whom are involved in management or oversight of activities associated with IT infrastructure). Most of the IT work associated with system development, network administration and operations, and user support, is performed by contractors. The ratio of Government IT staff to contractor averages around 1-to-2.5. Since we depend so heavily on outsourcing, much of the burden for retaining and training IT staff that support ITA activities actually falls to our contractors. The administrative organization in ITA has recently initiated an Individual Development Plan (IDP) program, so IT training needs for central IT management and planning staff (those involved in performing CIO management functions) will be addressed through this vehicle. For the remainder of the IT workforce, classes available through commercial vendors and Government sources are the primary means of training. Historically, turnover of Government IT staff has been relatively low; however, as the workforce ages, retention and replacement is becoming more of an issue.

Establishing a CIO Position and Organization

ITA addressed the CIO issue during this past year by proposing a FY 2001 budget initiative that included a CIO position, with staff and contract resources. The request was subsequently denied by OMB.

ITA senior management participated on the Department's CIO "tiger team", studying the issue of what IT resources should fall under the direct control of each operating unit CIO. ITA is awaiting the release of the Department guidance on operating unit CIO organizations before proceeding further.

IT Investment Portfolio Synopsis

ITA has adopted the portfolio paradigm for managing IT investments. The sections that follow describe the major elements of our current portfolio, which consists of five major investments: one for IT infrastructure and four for application systems. Changes to our portfolio since last year's plan are also identified.

IT Infrastructure Investments

The Total Network Compatibility (TNC) program has proven to be a successful management strategy for guiding the development and use of our infrastructure assets. Over the past several years, major modernization efforts in our headquarters and field (both domestic and international) have been undertaken and have resulted in a world-wide network and messaging system. Primary challenges for the future will concern sustaining the interoperability of the infrastructure, continual modernization, and meeting customer requirements.

Financial Summary

($K)

FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
14,625	15,024	15,500	16,000	16,500

Performance Measures

Measure	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Technological Currency (%)					
Hardware[1]	75%	75%	80%	80%	80%
Software[2]	95%	95%	95%	95%	95%

Notes:

(1) Hardware is considered current if it is (a) within one year of general market availability or (b) within one generation of the current product, and support/replacement parts are still available. Three years is the estimated system life for most hardware.

(2) Software is considered current if it is within one major revision of the current release.

IT System Investments

The investments described in this section represent ITA major application systems that support both administrative and program activities.

Financial Management System

ITA has recently replaced its accounting system as part of an overall effort to modernize and integrate ITA's financial and administrative management systems and streamline related business processes. Outsourcing to the Department of the Interior (DOI) was identified as the best overall solution for meeting ITA's financial systems services needs. DOI's National Business Center (NBC) operates as a federally-authorized franchise center providing financial services to 15 other federal agencies (including Commerce's Patent and Trademark Office). The NBC purchased and operates the Federal Financial System (FFS), a system developed by American Management Systems. ITA entered into an agreement with the NBC and has converted to FFS. NOAA disbursements were transferred to DOI on April 1, 1999 and, with the exception of some property accounting functions supported by the National Finance Center (NFC), all other functions were transferred during August and September 1999. Plans are being made to transition from NFC to DOI's property system during FY 2000.

Financial Summary

($K)

FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
2,795	2,500	2,500	2,500	2,500

Note: Costs are for operations, maintenance, and minor enhancements.

Performance Measures

Measure	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Next Day Reporting Capability and the ability to generate reports as needed.	100%	100%	100%	100%	100%
Meeting established servicing levels on payments.	100%	100%	100%	100%	100%

Client Management System (CMS)

CMS was developed by the US&FCS to assist trade specialists in the domestic Export Assistance Centers (EACs) in servicing their clients. The system's scope of operations has since been has been expanded to US&FCS' headquarters and international sites. CMS, a Lotus Notes application, includes both client tracking and management reporting capabilities. Any significant contacts with a client are recorded in the system, including a record of all products and/or services provided. Each client is uniquely identified, and any US&FCS staff member is able to easily access the database and review the complete history of client contacts. The data collected is a key component of ITA's performance measurement strategy.

Financial Summary

($K)

FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
170	172	175	175	175

Note: Costs are for operations, maintenance, and minor enhancements.

Performance Measures

Measure	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Implement System Worldwide	100%				
Develop and Deploy Enhancements	20%	40%	60%	80%	100%
Expand Information Collection from Clients	40%	60%	80%	100%	100%

Trade Policy Information System (TPIS)

TPIS is currently being updated with a more efficient Windows Interface, a new World Wide Web Interface, and enhanced server-side retrieval software. TPIS has added a second database server, running Windows NT, and is in the process of upgrading the original UNIX production server with new hardware and database software. TPIS continues to run Oracle as the primary database manager on both the Windows NT and the UNIX platforms. On-going maintenance and enhancements are being handled by the in-house support staff.

Financial Summary

($K)

FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
571	594	623	652	652

Note: Costs are for operations, maintenance, and minor enhancements.

Performance Measures

Measure	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Number of Users	175	250	300	300	300
Number of Lines of Output (Millions)	12	15	18	22	25
Number of Data Requests	11,000	14,000	17,000	20,000	23,000

Message Processing System (MPS)

ITA operates the MPS as the Commerce-wide system for distributing State Department cables. No significant changes in user demand or system requirements are envisioned for the next several years. The MPS is a proprietary system developed by Xerox Corporation. Although ITA operates the system, we depend on Xerox for system maintenance and enhancements.

Financial Summary

($K)

FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
838	750	750	750	750

Note: Costs are for operations, maintenance, and minor enhancements.

Performance Measures

Measure	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Messages Distributed Electronically (vs. Hardcopy)	**47%**	**56%**	**61%**	**65%**	**69%**
E-Mail	32%	38%	40%	42%	44%
Diskette	15%	18%	21%	23%	25%

IT Investment Portfolio Changes

Several proposals for new investments that appeared in last year's plan have been dropped. Three of these were FY 2001 budget initiatives for which OMB provided no funding:

US&FCS Virtual Trade Show Initiative ($3.03M)
US&FCS IT Infrastructure Initiative ($6.45M)
AD/CVD Document Management Automation ($1.09M)

A fourth investment, originally proposed as a FY 2000 budget increase, was dropped when funding was not included in the FY 2000 appropriation:

Tariff Quick-Service Program ($0.5M)

Proposals for FY 2002 IT-related budget initiatives have not yet been formulated.

Information Management Issues and Strategies

Although information technology is well-understood as an organizational asset, it is really "knowledge" that is the key to any organization's effectiveness. That knowledge is contained in the people of the organization, who use information acquired, processed, analyzed, stored and distributed by the organization's IT systems and infrastructure. ITA recognizes information as a resource to be managed, and distinct from the tangible (buildings, computers, telephones) and intellectual (people) assets of the organization. The table below summarizes ITA strategies for dealing with various information management issues that have arisen from Administration initiatives and federal information management policy mandates.

Information Management Issues and Strategies

Issues	Strategies
Managing Information Internally	
Electronic Record-Keeping	! Wait on affordable COTS solutions ! Await more definitive guidance from NARA
Interacting with the Public	
Reducing Information Collection Burden	! Convert hard-copy collections to web-based forms
Making Information Accessible to Those with Disabilities	! Observe accessible design guidelines for websites ! Depend on COTS solutions
Organizing Web Content from a Customer Perspective	! Build subject-based navigation mechanisms at the ITA level ! Work with other Commerce units and TPCC organizations to build integrated content-based navigation systems for trade-related information
Protecting Privacy	! Post privacy statements on ITA websites ! Register information collections with OMB ! Periodically review websites for compliance
Implementing E-FOIA	! Post information regarding how to submit FOIA requests on the ITA website
Implementing GPEA	! Continue using web publishing as a primary information dissemination strategy ! Consider implementing digital signatures where feasible and necessary to promote increased customer interaction

Appendix B

IT Investment Portfolio Financial Summary ($000)					
Cost Category	**FY 2000**	**FY 2001**	**FY 2002**	**FY 2003**	**FY 2004**
Infrastructure Investments					
Total Network Compatibility (TNC) Program	18,718	17,509	17,999	18,147	18,399
Subtotal	**18,718**	**17,509**	**17,999**	**18,147**	**18,399**
Administrative System Investments					
Financial Management System	2,795	2,500	2,500	2,500	2,500
Message Processing System (MPS)	838	750	750	750	750
Subtotal	**3,633**	**3,250**	**3,250**	**3,250**	**3,250**
Mission System Investments					
Client Management System (CMS)	170	172	175	175	175
Trade Policy Information System (TPIS)	571	594	623	652	652
Subtotal	**741**	**766**	**798**	**827**	**827**
IT Architecture and Planning Investments					
IT Architecture and Planning	281	287	292	298	304
Subtotal	**281**	**287**	**292**	**298**	**304**
TOTAL	**23,373**	**21,812**	**22,339**	**22,522**	**22,780**

Note: All costs are for operations, maintenance, and minor enhancements. No major development costs are included, since all systems in the current portfolio are in operational mode.